

RTP EO Cells



RTP belongs to the KTP crystal family. The outstanding Electro-Optical properties of RTP, together with its high damage threshold, make it a perfect solution for high-end laser applications. It is ideal for applications that require advanced characteristics, such as non-hygroscopic, high thermal stability, and high-repetition rates.

RTP EO Cells are assembled in a thermally compensated double-crystal configuration, in which two matched crystals are placed in line of the propagation axis (X or Y) with one rotated by 90 degrees (general drawing below).

RTP EO cells used for electro-optics applications, RTP crystals offer superior properties for users in the Aerospace, Defense, Medical, Industrial, Civil and Scientific applications.

Common Applications

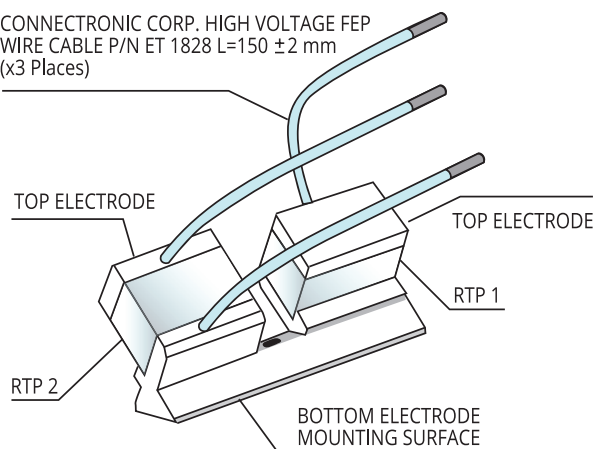
Q Switches | Pulse pickers
Phase modulators | Amplitude modulators
Cavity dumpers | Shutters
Attenuators & Deflectors

Advantages

- Low half-wave voltage for EO Cells to enable a compact design
- Rise time, fall time, and pulse width < 1 ns which enables fast operation
- Designed to operate at a wide temperature stability range (-50° C to 70° C)
- High laser-induced damage threshold (up to 1GW/cm , @1064 nm, 10 ns pulse)
- Minimal ringing, compatible for over 1 MHz repetition rate
- Non-hygroscopic, easy handling, no cover needed
- The best material in the spectral range of 500-3000 nm for electro-optics applications
- Very low absorption losses @1064 nm wavelength
- Extremely high homogeneity: up to 15 15 mm EO cells as a standard size

RTP EO Cell Structure

CONNECTRONIC CORP. HIGH VOLTAGE FEP
WIRE CABLE P/N ET 1828 L=150 ±2 mm
(x3 Places)



RTP EO Cell Product Offerings

- Thermally compensated matched pair of RTP Elements
- Single RTP Element (used for phase modulators)
- Plug and play, Electro-optical cells assembly (with / without housing)

Typical Specifications for RTP EO Cells

Operational range	500-3000 nm
Transmission @ 1064 nm	> 99%
Half wave voltage	3.6 kV (for EO Cell size: 9 × 9 × 10 mm ²)
Extinction ratio	Over 30 dB
Clear aperture	1.5 × 1.5 mm ² to 15 × 15 mm ²
Crystal length	Up to 50 mm
Acceptance angle	< 4 deg.
Standard AR coating @ 1064 nm	R < 0.2%
Laser Induced Damage Threshold	Up to 1 GW/cm ² , @1064 nm, 10 ns pulse or 10J/cm ²

Raicol Crystals, founded in 1995, is a global leader in nonlinear and EO crystal growth, fabrication, and assembly. Raicol offers a unique set of benefits to its customers:

- 50 years of experience in crystal growth
- Global pioneers of RTP, HGTR KTP, and PPKTP crystal growth and assembly
- A one-stop-shop, from crystal growth through to coating and EO cell assembly
- Mass production and small R&D volume capabilities
- Fast delivery times
- Unmatched crystal quality